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(FILE 'HOME' ENTERED AT 13:12:10 ON 27 APR 2006)

FILE 'HCAPLUS' ENTERED AT 13:12:21 ON 27 APR 2006

E US2004-511554/APPS

E WO2003-EP02739/APPS

E WO2003-EP2739/APPS

L1 1 SEA ABB=ON PLU=ON (WO2003-EP2739/AP OR WO2003-EP2739/PRN)

E DE2002-216998/APPS

E DE2002-10216998/APPS

L2 1 SEA ABB=ON PLU=ON (DE2002-10216998/AP OR DE2002-10216998/PRN)

L3 1 SEA ABB=ON PLU=ON L1 OR L2
SEL RN

FILE 'REGISTRY' ENTERED AT 13:13:51 ON 27 APR 2006

L4 16 SEA ABB=ON PLU=ON (115421-80-2/BI OR 119-61-9/BI OR 121-43-7/
BI OR 166982-32-7/BI OR 166982-33-8/BI OR 16940-66-2/BI OR
337-33-7/BI OR 476639-90-4/BI OR 615286-36-7/BI OR 615286-37-8/
BI OR 616-38-6/BI OR 617-86-7/BI OR 91543-32-7/BI OR 91543-33-8/
/BI OR 91543-34-9/BI OR 998-29-8/BI)

FILE 'HCAPLUS' ENTERED AT 13:13:56 ON 27 APR 2006

L5 1 SEA ABB=ON PLU=ON L3 AND L4
D IALL HITSTR

FILE 'REGISTRY' ENTERED AT 13:46:29 ON 27 APR 2006

L6 STR

L7 4 SEA SSS SAM L6

L8 87 SEA SSS FUL L6

D QUE

L9 STR

L10 6 SEA SSS SAM L9

L11 304 SEA SSS FUL L9

L12 235 SEA ABB=ON PLU=ON L11/COM OR (L11 AND ?PHOSPHIN?)

L13 183 SEA ABB=ON PLU=ON L11/COM

L14 230 SEA ABB=ON PLU=ON L11 AND PHOSPHIN?

L15 16636 SEA ABB=ON PLU=ON L13 OR 114

FILE 'HCAPLUS' ENTERED AT 13:54:49 ON 27 APR 2006

L16 125 SEA ABB=ON PLU=ON L8

L17 310 SEA ABB=ON PLU=ON L13

L18 30 SEA ABB=ON PLU=ON L16 AND L17

L19 50 SEA ABB=ON PLU=ON L16(L) RACT+ALL/RL

L20 84 SEA ABB=ON PLU=ON L13(L) PREP+ALL/RL

L21 4 SEA ABB=ON PLU=ON L19 AND L20

L22 1 SEA ABB=ON PLU=ON L21 AND L3

FILE 'REGISTRY' ENTERED AT 13:56:21 ON 27 APR 2006

SEL RN L8

DEL SEL Y

SEL RN L8

SEL RN L13

FILE 'CASREACT' ENTERED AT 13:57:07 ON 27 APR 2006

L23 13 SEA ABB=ON PLU=ON (1112-04-5/RRT OR 1112-16-9/RRT OR
111784-57-7/RRT OR 111784-62-4/RRT OR 115421-80-2/RRT OR
115421-81-3/RRT OR 115421-82-4/RRT OR 1184-81-2/RRT OR

1184-82-3/RRT OR 1184-96-9/RRT OR 119254-99-8/RRT OR 119255-00-4/RRT OR 119255-02-6/RRT OR 119280-20-5/RRT OR 123271-20-5/RRT OR 125685-67-8/RRT OR 127223-44-3/RRT OR 1426-40-0/RRT OR 166982-30-5/RRT OR 166982-31-6/RRT OR 1840-67-1/RRT OR 19585-44-5/RRT OR 205926-47-2/RRT OR 205926-48-3/RRT OR 205926-49-4/RRT OR 205926-51-8/RRT OR 205926-52-9/RRT OR 21220-15-5/RRT OR 21491-87-2/RRT OR 22737-41-3/RRT OR 22779-53-9/RRT OR 22779-54-0/RRT OR 23092-10-6/RRT OR 2377-98-2/RRT OR 24512-25-2/RRT OR 265311-28-2/RRT OR 265311-29-3/RRT OR 265311-31-7/RRT OR 265311-32-8/RRT OR 270921-56-7/RRT OR 270921-57-8/RRT OR 270921-58-9/RRT OR 270921-59-0/RRT OR 27900-96-5/RRT OR 27900-97-6/RRT OR 27900-98-7/RRT OR 356040-09-0/RRT OR 44863-52-7/RRT OR 454421-26-2/RRT OR 454468-19-0/RRT OR 51275-75-3/RRT OR 51275-76-4/RRT OR 51348-78-8/RRT OR 51703-85-6/RRT OR 53432-53-4/RRT OR 53432-54-5/RRT OR 58734-89-7/RRT OR 58772-67-1/RRT OR 59239-81-5/RRT OR 60094-21-5/RRT OR 60094-22-6/RRT OR 650609-70-4/RRT OR 661-45-0/RRT OR 685-72-3/RRT OR 692717-46-7/RRT OR 705916-18-3/RRT OR 738550-01-1/RRT OR 741663-66-1/RRT OR 759-07-9/RRT OR 762180-58-5/RRT OR 79549-38-5/RRT OR 79549-39-6/RRT OR 79549-40-9/RRT OR 79549-41-0/RRT OR 827027-06-5/RRT OR 856828-41-6/RRT OR 856952-67-5/RRT OR 91543-32-7/RRT OR 91543-33-8/RRT OR 91543-34-9/RRT OR 91543-35-0/RRT OR 91543-36-1/RRT OR 91543-37-2/RRT OR 91543-38-3/RRT OR 91543-39-4/RRT OR 99564-97-3/RRT OR 99565-01-2/RRT)
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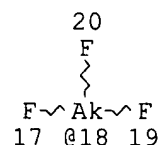
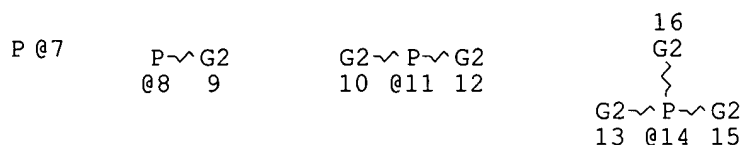
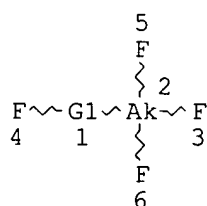
E PHOSPHORANE/CT

E E7+ALL

L24 5 SEA ABB=ON PLU=ON PHOSPHORANES+PFT/CT (L) PERFLUORO?
L*** DEL 1 S L3 AND L24
L25 185 SEA ABB=ON PLU=ON PHOSPHORANES+PFT/CT (L) RACT+ALL/RL
L26 3 SEA ABB=ON PLU=ON L24 AND L25
E PHOSPHINES/CT
E E3+ALL
L27 24 SEA ABB=ON PLU=ON PHOSPHINES+PFT/CT (L) PERFLUOR?
L28 1438 SEA ABB=ON PLU=ON PHOSPHINES+PFT/CT (L) PREP+ALL/RL
L29 18 SEA ABB=ON PLU=ON L27 AND L28
L30 1 SEA ABB=ON PLU=ON L26 AND L29
L31 1 SEA ABB=ON PLU=ON L3 AND L30
L32 4 SEA ABB=ON PLU=ON L30 OR L21

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L6 STR

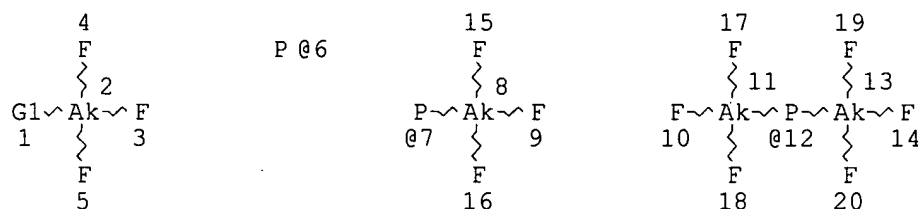


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 CONNECT IS E2 RC AT 7
 CONNECT IS E3 RC AT 8
 CONNECT IS E4 RC AT 11
 CONNECT IS E5 RC AT 14
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L8 87 SEA FILE=REGISTRY SSS FUL L6
 L9 STR



VAR G1=6/7/12
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 6
 CONNECT IS E2 RC AT 7
 CONNECT IS E3 RC AT 12
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE

L11 304 SEA FILE=REGISTRY SSS FUL L9
 L13 183 SEA FILE=REGISTRY ABB=ON PLU=ON L11/COM
 L16 125 SEA FILE=HCAPLUS ABB=ON PLU=ON L8
 L19 50 SEA FILE=HCAPLUS ABB=ON PLU=ON L16(L) RACT+ALL/RL
 L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L13(L) PREP+ALL/RL
 L21 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND L20
 L24 5 SEA FILE=HCAPLUS ABB=ON PLU=ON PHOSPHORANES+PFT/CT (L) PERFLUOR
 O?
 L25 185 SEA FILE=HCAPLUS ABB=ON PLU=ON PHOSPHORANES+PFT/CT (L) RACT+ALL
 /RL
 L26 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L25
 L27 24 SEA FILE=HCAPLUS ABB=ON PLU=ON PHOSPHINES+PFT/CT (L) PERFLUOR?
 L28 1438 SEA FILE=HCAPLUS ABB=ON PLU=ON PHOSPHINES+PFT/CT (L) PREP+ALL/R
 L
 L29 18 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND L28
 L30 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L26 AND L29
 L32 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L30 OR L21

=> d 132 ibib abs hitind hitstr 1-4

L32 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 HCAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of
(perfluoroalkyl)phosphines by reaction of
fluoro(perfluoroalkyl)phosphoranes with hydride donors
and their use as perfluoroalkylating reagents

INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden,
Michael; Schmidt, Michael; Heider, Udo; Miller,
Alexej; Willner, Helge; Sartori, Peter

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087113	A1	20031023	WO 2003-EP2739	20030317
W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW	
RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG	
DE 10216998	A1	20031113	DE 2002-10216998	20020418
AU 2003218773	A1	20031027	AU 2003-218773	20030317
EP 1495037	A1	20050112	EP 2003-712029	20030317
R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
US 2005131256	A1	20050616	US 2003-511554	20030317
JP 2005522512	T2	20050728	JP 2003-584069	20030317
PRIORITY APPLN. INFO.:			DE 2002-10216998	A 20020418
			WO 2003-EP2739	W 20030317

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane (C_nF_{2n+1})mPF₅-m (1 ≤ n ≤ 8, preferably 1 ≤ n ≤ 4; m = 1, 2, 3) with equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence

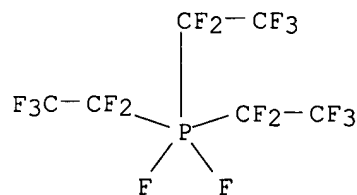
of a base. In an example, treating 0.54 mol (C₂F₅)₃PF₂ with 1.089 mol NaBH₄ at reflux for 3 h with vigorous stirring gave 93% (C₂F₅)₃P, which subsequently was treated with KOBu-t and benzophenone in THF to give 62% CF₃CF₂C(OH)Ph₂.

IC ICM C07F009-50

CC 29-7 (Organometallic and Organometalloidal Compounds)

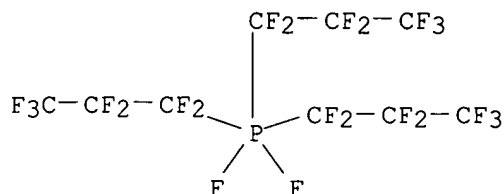
Section cross-reference(s): 21

- IT **Phosphoranes**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (perfluoroalkyl; process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- IT **Phosphines**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (perfluoroalkyl; process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- IT 119-61-9, Benzophenone, reactions 121-43-7, Trimethyl borate 616-38-6, Dimethyl carbonate 91543-32-7, Difluorotris(pentafluoroethyl)phosphorane 91543-33-8, Difluorotris(n-heptafluoropropyl)phosphorane 91543-34-9, Difluorotris(n-nonafluorobutyl)phosphorane 115421-80-2, Trifluorobis(n-nonafluorobutyl)phosphorane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- IT 166982-32-7P, Tris(pentafluoroethyl)phosphine 476639-90-4P, Potassium (pentafluoroethyl)trifluoroborate
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- IT 337-33-7P, 2,2,3,3,3-Pentafluoro-1,1-diphenylpropan-1-ol 166982-33-8P, Tris(n-nonafluorobutyl)phosphine 615286-36-7P, Bis(n-nonafluorobutyl)phosphine 615286-37-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- IT 91543-32-7, Difluorotris(pentafluoroethyl)phosphorane 91543-33-8, Difluorotris(n-heptafluoropropyl)phosphorane 91543-34-9, Difluorotris(n-nonafluorobutyl)phosphorane 115421-80-2, Trifluorobis(n-nonafluorobutyl)phosphorane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)
- RN 91543-32-7 HCAPLUS
 CN Phosphorane, difluorotris(pentafluoroethyl)- (9CI) (CA INDEX NAME)



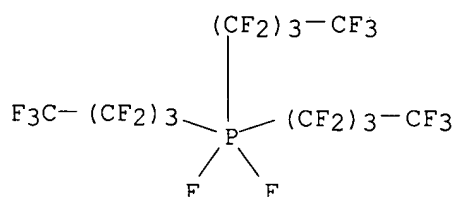
RN 91543-33-8 HCAPLUS

CN Phosphorane, difluorotris(heptafluoropropyl)- (9CI) (CA INDEX NAME)



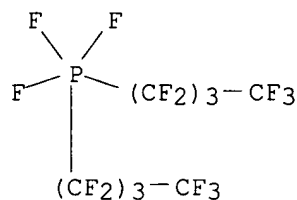
RN 91543-34-9 HCAPLUS

CN Phosphorane, difluorotris(nonafluorobutyl)- (9CI) (CA INDEX NAME)



RN 115421-80-2 HCAPLUS

CN Phosphorane, trifluorobis(nonafluorobutyl)- (9CI) (CA INDEX NAME)



IT 166982-32-7P, Tris(pentafluoroethyl)phosphine

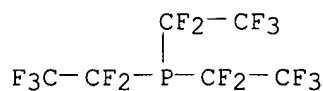
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP**

(Preparation); RACT (Reactant or reagent)

(process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)

RN 166982-32-7 HCAPLUS

CN Phosphine, tris(pentafluoroethyl)- (9CI) (CA INDEX NAME)



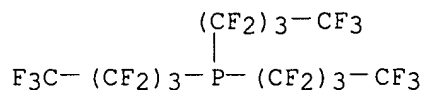
IT 166982-33-8P, Tris(n-nonafluorobutyl)phosphine

615286-36-7P, Bis(n-nonafluorobutyl)phosphine

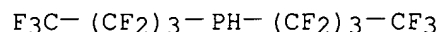
RL: **SPN (Synthetic preparation); PREP (Preparation)**

(process for preparation of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and subsequent use as perfluoroalkylation reagents)

RN 166982-33-8 HCAPLUS
 CN Phosphine, tris(nonafluorobutyl)- (9CI) (CA INDEX NAME)



RN 615286-36-7 HCAPLUS
 CN Phosphine, bis(nonafluorobutyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1995:653663 HCAPLUS
 DOCUMENT NUMBER: 123:144016
 TITLE: The synthesis of tris(perfluoroalkyl)phosphanes
 AUTHOR(S): Kampa, Joel J.; Nail, John W.; Lagow, Richard J.
 CORPORATE SOURCE: Dep. Chemistry, Univ. Texas Austin, Austin, TX, 78712, USA

SOURCE: Angewandte Chemie, International Edition in English (1995), 34(11), 1241-44
 CODEN: ACIEAY; ISSN: 0570-0833

PUBLISHER: VCH
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Trialkylphosphines have been subjected to direct elemental fluorination in Freon 11 and 113 (1:1) in a solution reactor to produce difluorotris(perfluoroalkyl)phosphoranes, e.g., $\text{F}_2\text{P}(\text{CF}_2\text{CF}_3)_3$, in good yields. Reduction of the above difluorotris(perfluoroalkyl)phosphoranes by selective removal of the two axial fluorines atoms bound to the phosphorus using $\text{P}(\text{SiMe}_3)_3$ as reducing reagent gave previously inaccessible (perfluoroalkyl)phosphines, e.g., $\text{P}(\text{CF}_2\text{CF}_3)_3$.

CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 91543-32-7P, Phosphorane, difluorotris(pentafluoroethyl)
 91543-33-8P, Phosphorane, difluorotris(heptafluoropropyl)
 91543-34-9P, Phosphorane, difluorotris(nonafluorobutyl)
 91543-35-0P, Phosphorane, difluorotris(undecafluoropentyl)
 91543-37-2P, Phosphorane, difluorotris(tridecafluorohexyl)
 166982-30-5P 166982-31-6P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of tris(perfluoroalkyl)phosphines from selective reduction of difluorotris(perfluoroalkyl)phosphoranes, prepared by fluorination of trialkylphosphines)

IT 51761-69-4P 166982-32-7P 166982-33-8P
 166982-34-9P 166982-35-0P 166982-36-1P
 166982-37-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

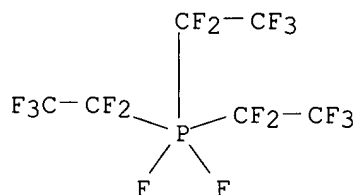
(synthesis of tris(perfluoroalkyl)phosphines from selective reduction of difluorotris(perfluoroalkyl)phosphoranes, prepared by fluorination of trialkylphosphines)

IT 91543-32-7P, Phosphorane, difluorotris(pentafluoroethyl)
 91543-33-8P, Phosphorane, difluorotris(heptafluoropropyl)
 91543-34-9P, Phosphorane, difluorotris(nonafluorobutyl)
 91543-35-0P, Phosphorane, difluorotris(undecafluoropentyl)
 91543-37-2P, Phosphorane, difluorotris(tridecafluorohexyl)
 166982-30-5P 166982-31-6P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of tris(perfluoroalkyl)phosphines from selective reduction of difluorotris(perfluoroalkyl)phosphoranes, prepared by fluorination of trialkylphosphines)

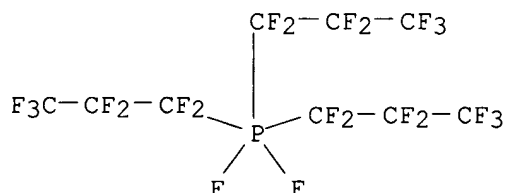
RN 91543-32-7 HCAPLUS

CN Phosphorane, difluorotris(pentafluoroethyl)- (9CI) (CA INDEX NAME)



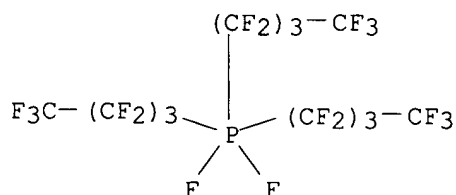
RN 91543-33-8 HCAPLUS

CN Phosphorane, difluorotris(heptafluoropropyl)- (9CI) (CA INDEX NAME)



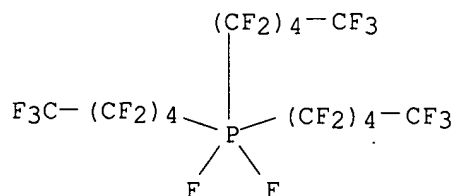
RN 91543-34-9 HCAPLUS

CN Phosphorane, difluorotris(nonafluorobutyl)- (9CI) (CA INDEX NAME)



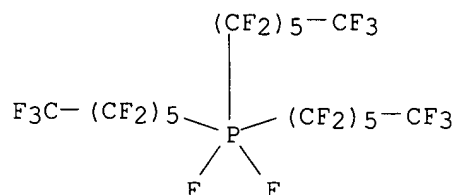
RN 91543-35-0 HCAPLUS

CN Phosphorane, difluorotris(undecafluoropentyl)- (9CI) (CA INDEX NAME)



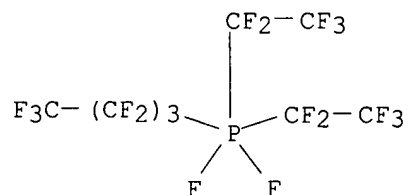
RN 91543-37-2 HCAPLUS

CN Phosphorane, difluorotris(tridecafluorohexyl)- (9CI) (CA INDEX NAME)



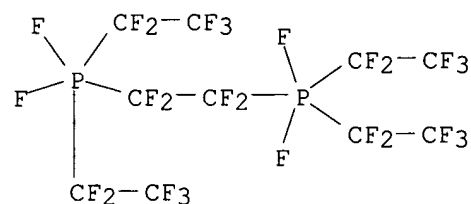
RN 166982-30-5 HCAPLUS

CN Phosphorane, difluoro(nonafluorobutyl)bis(pentafluoroethyl)- (9CI) (CA INDEX NAME)



RN 166982-31-6 HCAPLUS

CN Phosphorane, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[difluorobis(pentafluoroethyl)-, stereoisomer (9CI) (CA INDEX NAME)



IT 51761-69-4P 166982-32-7P 166982-33-8P
 166982-34-9P 166982-35-0P 166982-36-1P
 166982-37-2P

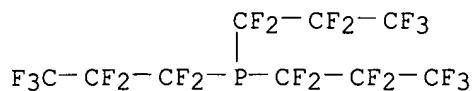
RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(synthesis of tris(perfluoroalkyl)phosphines from selective reduction of difluorotris(perfluoroalkyl)phosphoranes, prepared by fluorination of trialkylphosphines)

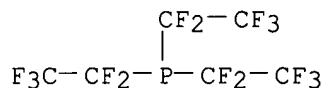
RN 51761-69-4 HCAPLUS

CN Phosphine, tris(heptafluoropropyl)- (9CI) (CA INDEX NAME)



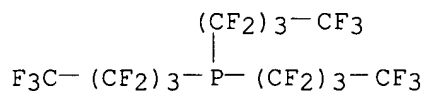
RN 166982-32-7 HCAPLUS

CN Phosphine, tris(pentafluoroethyl)- (9CI) (CA INDEX NAME)



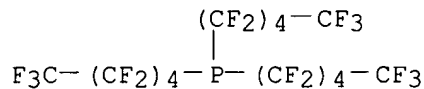
RN 166982-33-8 HCAPLUS

CN Phosphine, tris(nonafluorobutyl)- (9CI) (CA INDEX NAME)



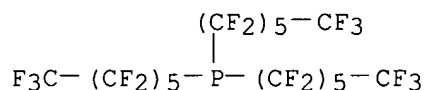
RN 166982-34-9 HCAPLUS

CN Phosphine, tris(undecafluoropentyl)- (9CI) (CA INDEX NAME)



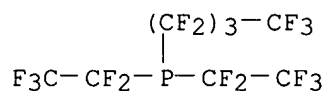
RN 166982-35-0 HCAPLUS

CN Phosphine, tris(tridecafluorohexyl)- (9CI) (CA INDEX NAME)



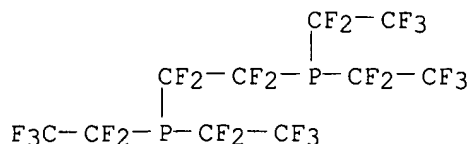
RN 166982-36-1 HCAPLUS

CN Phosphine, (nonafluorobutyl)bis(pentafluoroethyl)- (9CI) (CA INDEX NAME)



RN 166982-37-2 HCAPLUS

CN Phosphine, (1,1,2,2-tetrafluoro-1,2-ethanediyl)bis[bis(pentafluoroethyl)- (9CI) (CA INDEX NAME)]



L32 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:493187 HCAPLUS

DOCUMENT NUMBER: 109:93187

TITLE: Comparative study of tris(trifluoromethyl)phosphine oxide, tris(nonafluorobutyl)phosphine oxide and fluorobis(nonafluorobutyl)phosphine oxide with ammonia and amines

AUTHOR(S): Mahmood, Tariq; Bao, Jian Ming; Kirchmeier, Robert L.; Shreeve, Jean'ne M.

CORPORATE SOURCE: Dep. Chem., Univ. Idaho, Moscow, ID, 83843, USA

SOURCE: Inorganic Chemistry (1988), 27(17), 2913-16

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:93187

AB Under identical reaction conditions, the behavior of R₃PO (R = CF₃, C₄F₉) or R₂P(O)F (R = C₄F₉) with ammonia or amines is different, e.g., (CF₃)₃PO with NH₃, MeNH₂, or Me₂NH gives (CF₃)₃P(NH₂)₂, (CF₃)₂P(O)(NHMe) or (CF₃)P(O)(NHMe)₂ (excess MeNH₂), or (CF₃)₂P(O)NMe₂, resp. However, with the same reactants, (C₄F₉)₃PO forms (C₄F₉)₂P(O)NH- NH₄⁺ or C₄F₉P(O)(NH₂)₂ (excess NH₃), C₄F₉P(O)(NHMe)₂ (excess MeNH₂), or (C₄F₉)₃P(OH)[NMe₂], (C₄F₉)₃P[NMe₂]₂, and (C₄F₉)₂P(O)NMe₂. Similar products are found with (C₄F₉)₂P(O)F except with Me₂NH where (C₄F₉)PF(O)[NMe₂] is the major product. In addition, new routes to (C₄F₉)₃PO, (C₄F₉)₂PF₃, and (C₄F₉)₂P(O)F are described. These products and conditions are compared with those for analogous hydrolysis reactions.

CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 115421-81-3P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and decomposition of)

IT 423-01-8P, Tris(trifluoromethyl)phosphine oxide 115421-82-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and amination of)

IT 432-04-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and oxidation of, with nitrogen dioxide)

IT 91543-34-9

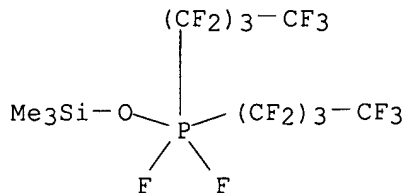
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis(trimethylsilyl) ether)

IT 115421-81-3P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and decomposition of)

RN 115421-81-3 HCAPLUS

CN Phosphorane, difluorobis(nonafluorobutyl)[(trimethylsilyl)oxy]- (9CI) (CA INDEX NAME)

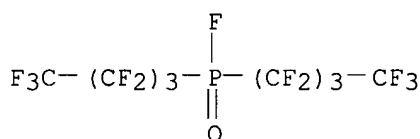


IT 115421-82-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation and amination of)

RN 115421-82-4 HCAPLUS

CN Phosphinic fluoride, bis(nonafluorobutyl)- (9CI) (CA INDEX NAME)

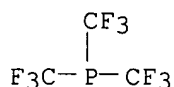


IT 432-04-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation and oxidation of, with nitrogen dioxide)

RN 432-04-2 HCAPLUS

CN Phosphine, tris(trifluoromethyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

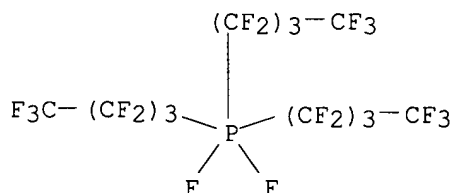


IT 91543-34-9

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with bis(trimethylsilyl) ether)

RN 91543-34-9 HCAPLUS

CN Phosphorane, difluorotris(nonafluorobutyl)- (9CI) (CA INDEX NAME)



L32 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1974:83141 HCAPLUS

DOCUMENT NUMBER: 80:83141

TITLE: Preparation and nuclear magnetic resonance parameters
 of perfluoroalkyl-substituted phosphorus(V) hydrides

AUTHOR(S): Gilje, John W.; Braun, Ronald W.; Cowley, Alan H.
 CORPORATE SOURCE: Dep. Chem., Univ. Tex., Austin, TX, USA
 SOURCE: Journal of the Chemical Society, Chemical
 Communications (1973), (21), 813-14
 CODEN: JCCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB (CF₃)₃PH₂ (I), CF₃PF₃H (II) and (CF₃)₂PF₂H were prepared by vapor phase reaction of (CF₃)_nPF_{5-n} (n = 3, 1, 2, resp.) with Me₃SiH. The labile CF₃PF₂H₂ was detected in the reversible liquid phase reaction of CF₃PF₄ with Me₃SiH but not isolated. I and II are fluxional.

CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 51275-75-3P 51275-76-4P **51348-77-7P** 51348-78-8P

RL: **SPN (Synthetic preparation); PREP (Preparation)**
 (preparation and NMR parameters of)

IT **661-45-0 1184-81-2 1184-82-3**

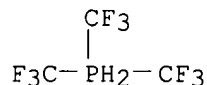
RL: **RCT (Reactant); RACT (Reactant or reagent)**
 (reaction with trimethylsilane)

IT **51348-77-7P**

RL: **SPN (Synthetic preparation); PREP (Preparation)**
 (preparation and NMR parameters of)

RN 51348-77-7 HCAPLUS

CN Phosphorane, tris(trifluoromethyl)-, (TB-5-11)- (9CI) (CA INDEX NAME)

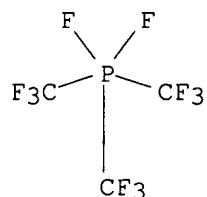


IT **661-45-0 1184-81-2 1184-82-3**

RL: **RCT (Reactant); RACT (Reactant or reagent)**
 (reaction with trimethylsilane)

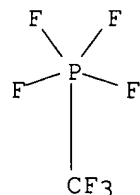
RN 661-45-0 HCAPLUS

CN Phosphorane, difluorotris(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1184-81-2 HCAPLUS

CN Phosphorane, tetrafluoro(trifluoromethyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 1184-82-3 HCAPLUS

CN Phosphorane, trifluorobis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX
NAME)